

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

Claims 1-17 (canceled)

Claim 18 (currently amended): The system of ~~Claim 17~~ Claim 20 wherein a combustion products separator is located downstream from said first turbine, said combustion products separator including an inlet for the combined products of combustion and the diluent and at least two outlets including a primarily water outlet and a primarily carbon dioxide outlet, said primarily water outlet coupled to a feed water line leading to said source of diluent, such that said source of diluent is a source of primarily water diluent.

Claim 19 (currently amended): The system of ~~Claim 18~~ Claim 20 wherein said at least one diluent heater is located between a last turbine downstream from said gas generator and said combustion products separator.

Claim 20 (currently amended): ~~The system of Claim 17~~ A low emissions hydrocarbon combustion power generation system featuring regenerative heating, comprising in combination:

an air separator adapted to separate at least a portion of oxygen from other constituents within ambient air entering said air separator through an oxygen outlet;

a source of hydrocarbon fuel;

a source of diluent;

a gas generator adapted to combust the fuel from said source of hydrocarbon fuel with oxygen from said oxygen outlet of said air separator to produce products of combustion including water and carbon dioxide, said gas generator including an outlet for the products of combustion, said gas generator adapted to add the diluent from said

source of diluent to the products of combustion produced within said gas generator with a combination of the diluent and the products of combustion produced within the gas generator discharged through said gas generator outlet;

a first turbine downstream from said gas generator outlet, said turbine adapted to expand the products of combustion and the diluent, as well as output power, said first turbine having a discharge;

at least one diluent heater adapted to heat the diluent before the diluent enters said gas generator, said diluent heater in heat transfer relationship with the products of combustion downstream from said gas generator, such that at least a portion of heat within the products of combustion is transferred to the diluent before the diluent enters said gas generator;

wherein a reheater is located downstream from said first turbine discharge, said reheater adapted to combust hydrocarbon fuel from said source of hydrocarbon fuel with oxygen from said oxygen outlet of said air separator, and to mix the products of combustion produced within said gas generator and the diluent with products of combustion produced within said reheater to produce combined products of combustion discharged through a reheater outlet; ~~and~~

a second turbine downstream from said reheater, said second turbine adapted to expand the combined products of combustion and output power, and having a second turbine discharge[.]; and

said at least one diluent heater located downstream from said second turbine.

Claim 21 (currently amended): ~~The system of Claim 20~~ A low emissions hydrocarbon combustion power generation system featuring regenerative heating, comprising in combination:

an air separator adapted to separate at least a portion of oxygen from other constituents within ambient air entering said air separator through an oxygen outlet;

a source of hydrocarbon fuel;

a source of diluent;

a gas generator adapted to combust the fuel from said source of hydrocarbon fuel with oxygen from said oxygen outlet of said air separator to produce products of combustion including water and carbon dioxide, said gas generator including an outlet for the products of combustion, said gas generator adapted to add the diluent from said source of diluent to the products of combustion produced within said gas generator with a combination of the diluent and the products of combustion produced within the gas generator discharged through said gas generator outlet;

a first turbine downstream from said gas generator outlet, said turbine adapted to expand the products of combustion and the diluent, as well as output power, said first turbine having a discharge;

at least one diluent heater adapted to heat the diluent before the diluent enters said gas generator, said diluent heater in heat transfer relationship with the products of combustion downstream from said gas generator, such that at least a portion of heat within the products of combustion is transferred to the diluent before the diluent enters said gas generator;

wherein a reheater is located downstream from said first turbine discharge, said reheater adapted to combust hydrocarbon fuel from said source of hydrocarbon fuel with oxygen from said oxygen outlet of said air separator, and to mix the products of combustion produced within said gas generator and the diluent with products of combustion produced within said reheater to produce combined products of combustion discharged through a reheater outlet;

a second turbine downstream from said reheater, said second turbine adapted to expand the combined products of combustion and output power, and having a second turbine discharge; and

wherein said at least one diluent heater is located between said first turbine and said reheater downstream from said gas generator.

Claim 22 (currently amended): The system of Claim 21 wherein a combustion products separator is located downstream from ~~said a~~ last turbine, said separator including an inlet for the combined products of combustion and the diluent and at least two outlets including a primarily water outlet and a primarily carbon dioxide outlet, said primarily water outlet coupled to a feed water line leading to said source of diluent, such that said source of diluent is a source of primarily water diluent.

Claim 23 (original): The system of Claim 22 wherein a second diluent heater is located between said last turbine and said separator.

Claim 24 (currently amended): The system of ~~Claim 23~~ Claim 21 wherein a second reheater is located downstream from said second turbine discharge, said second reheater adapted to combust hydrocarbon fuel with oxygen, and to mix fluids from said second turbine discharge with products of combustion produced within said second reheater to produce combined products of combustion discharged through said second reheater outlet; and

a third turbine downstream from said second reheater, said third turbine adapted to expand the combined products of combustion and output power, and having a third turbine discharge.

Claim 25 (original): The system of Claim 24 wherein a third diluent heater is located between said second turbine and said second reheater.

Claims 26-27 (canceled)